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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/804,654	03/12/2001	Hongyong Zhang	07977/097003/US3176D1D1	1999

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EXAMINER

FLYNN, NATHAN J

ART UNIT

PAPER NUMBER

2826

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/804,654

Applicant(s)

ZHANG, HONGYONG

Examiner

Fetsum Abraham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

**General discussion:**

The specification teaches the following:

Summary of Invention Paragraph:

1) [0037] wherein at least other one of the plurality of regions is used as a stopper for stopping crystal growth in a direction parallel or substantially parallel to the surface of the silicon film to limit the crystal growth in a direction parallel or substantially parallel to the surface of the silicon film.

**Comment:**

It so seems like there are two regions within a single region on the substrate, one said crystallization stopper region and the other where crystallization takes place

The specification further states that:

2) [0104] The process shown in this embodiment is a process for producing a single thin-film transistor in each of two different adjacent horizontal growth regions. This embodiment shows an example where an N-channel thin-film transistor is fabricated.

**Comment:**

It so seems like a single thin film transistor is formed by crystallizing two different regions of a semiconductor material on the substrate. Clearly, one safe assumption could be the source and drain regions of the TFT's active layer considered AS the two different regions.

**The claim language is as follows:**

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1. A semiconductor device comprising an electronic circuit having at least one function which is formed on a substrate having an insulative surface using at least two semiconductor regions where crystals are grown in a direction parallel or substantially parallel to the substrate, wherein the two regions have the same crystal growth form.

Based on the discussion above, the claim seems to be direction towards assumption (2).

### DETAILED ACTION

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakajima et al (5,712,191).

The patent discloses a thin film transistor electronic circuit (figure 4D) having at least one function (switching) formed on an insulating substrate (302 in figure 4A), using two semiconductor regions (source and drain: 405,408 in figure 4C), where crystals are grown by introducing nickel to the active layer (see figure 3b), the crystal growth taking place in a direction parallel to the surface of the substrate, and the two regions (source and drain) have the same crystal growth form.

Although there exists the probability of uncertainty as to what exactly may constitute said two regions based on the brief teaching presented in the specification, it

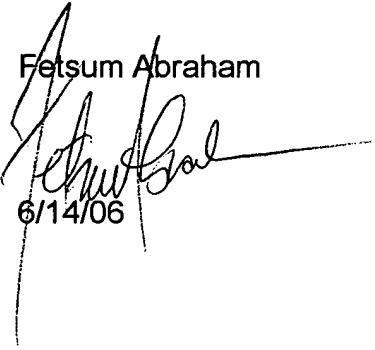
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would have been obvious to one with ordinary skill in the art to correlate the prior art and the claimed invention and conclude the two structures as being similar to one another because TFTs have electronic function and at least two regions associated with their active layers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fetsum Abraham whose telephone number is: 571-272-1911. The examiner can normally be reached on 8:00 - 18:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan J Flynn can be reached on 571-272-1915.

Fetsum Abraham



6/14/06